

Of the 28 fish sampled, the length range for grayling was 162-308 mm, with an average length of 229.7 mm. Weights ranged from 46.3-409.8 grams, with an average weight of 139.9 grams. Condition factors for Marge Lake grayling ranged from .83-1.22, with an average condition factor of 1.18. Age classes ranged from II-IV years. Approximately 50% of the fish sampled were mature spawners from 3-4 years old.

Marge Lake fish stomachs contained a high percentage of aquatic insects such as caddis larvae and water beattles. Freshwater shrimp were also abundant.

The inlet stream to Marge Lake is small with low water flow but apparently provides adequate spawning conditions for grayling. This population probably supports Summit and Mellen lakes. Surface water temperature was 56<sup>0</sup> F.

There are no recreational facilities at Marge Lake, but the shoreline however provides places to camp. Sport fishing in Marge Lake should remain excellent. Access is by float plane only.

#### Summit Lake

Summit Lake, Figure 1, was the second largest (350 acres) of the five lakes surveyed and lies at an elevation of 1,298 feet. The inlet to the lake is poor for spawning conditions due to low water flows. Surface temperature in the lake was 58<sup>0</sup> F.

Summit Lake was planted with Arctic grayling in 1962 and 1967. Two one hundred foot variable mesh gill nets were fished for 24 hours. One net was placed at the inlet to the lake and the other at the outlet. Results of the test netting are listed in Table 12.

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Summit Lake

Of the 20 fish sampled, the length range for Arctic grayling was 175-363 mm with an average length of 276.7 mm. The range in weight was 52.5-443.5 grams with an average weight of 227.4 grams. Condition factors for Summit Lake ranged from .90 -1.51 with an average condition factor of 1.05. Age classes ranged from I+-III+ years. Approximately 75% of fish sampled were mature spawners and three to four years old.

Summit Lake contained a thriving population of freshwater shrimp and aquatic insects. Stomach content analysis revealed approximately 70% aquatics and shrimp and 30% hemlock needles.

Arctic grayling introduced to Summit Lake in 1962 and 1967 has sustained itself either by fish dropping down from Marge Lake or by spawning in a very small and steep inlet stream.

Sport fishing in Summit Lake should remain very productive in the future. There are no recreational facilities at Summit Lake, the shoreline, however, provides excellent camping sites. Access is by float plane only.

#### ~~Mellen Lake~~

Mellen Lake, Figure 1, lies at an elevation of 873 feet and is approximately 20 miles south west of Summit Lake. This 182 acre lake was test netted to determine whether fish passed from Summit to Mellen Lake. On August 18, 1982 through August 19, 1982, one, one hundred foot variable mesh gill net was placed at the outlet, and one net at a small inlet stream to the lake. The nets were left for 24 hours. Results of the test netting are listed in Table 13.